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VENEREAL DISEASE CONTROL

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VENEREAL DISEASE CONTROL

RECENT REVERSAL of a long downward trend in incidence of syphilis and gonorrhea has brought a sharp reminder that the battle against these ancient scourges is far from won. While the present VD rate is far below what it was 15 years ago, thanks chiefly to penicillin, public health officers warn that serious obstacles to eradication of these diseases remain. So long as infected persons go untreated, the danger of epidemics persists.

Growth of the so-called social diseases among teenagers has caused special concern. Moral implications aside, the spread of syphilis and gonorrhea in the lower age groups presents a particularly serious problem, because the sufferers tend to keep knowledge of the condition to themselves. Early symptoms then disappear and the victims become subject to the later degenerative phases of their affliction. Already an increase has been noted in the incidence of congenital syphilis among infants born of infected mothers. Demands for remounting of the concentrated anti-VD campaigns of past years are now being heard. The effort would be aimed chiefly at tracking down all infected persons and bringing them under treatment. Medical experts at present know no other way to break the chain of infection.

Present Extent of Syphilis and Gonorrhea

The actual extent of VD is uncertain because syphilis and gonorrhea have almost always been under-reported. Back in the mid-1930s, a U.S. Public Health Service survey showed something like 700,000 syphilitics under medical treatment, but authoritative estimates put the total number of sufferers at six million. One million fresh infections of gonorrhea were being reported by doctors each year, but many more infected persons were believed to be practicing self-medication.[1]

The number of cases reported in more recent years is

[1] See "Control of Venereal Diseases," *E.R.R.*, 1938 Vol. II, pp. 290-291.

considerably lower. Data from public health departments showed that 120,000 cases of syphilis (exclusive of military cases) were known to authorities in the year ended June 30, 1959. But Dr. Robert J. Anderson, chief of the Communicable Disease Center of the U.S. Public Health Service, estimated recently that there were 1.2 million persons in the United States "who have been infected by the spirochete of syphilis and who have never received adequate treatment." [2] Some 237,300 cases of gonorrhea were reported in the year ended June 30, 1959, but health officers believe that the actual number infected each year is close to one million. Gonorrhea, though a less serious illness than syphilis, is more infectious, develops more quickly, and more people are susceptible to it.

On the basis of reported cases alone, gonorrhea and syphilis rank third and fourth respectively among all reportable communicable diseases in the number of individuals known to be infected.[3] Approximately 70 of every 100,000 persons in the United States have syphilis in some stage of development, and 137 of every 100,000 suffer from gonorrhea. Although this is a notable reduction from the rates of a dozen years ago, when 235 of every 100,000 had syphilis and 252 had gonorrhea, areas of high prevalence still exist.

Rise Since 1957 in Number of Cases Reported

The danger of contagion is greatest in the early stages of syphilis. The incidence rate of early infectious syphilis exceeds the national rate of 4.7 per 100,000 in 18 states.[4] Within these states are pockets of very severe incidence, rating as local epidemics. An area in Arkansas, for example, recently reported a rate of 280 cases of early infectious syphilis per 100,000 of population. Cincinnati's rate for early syphilis was 15 per 100,000 last year, but one section of the city had a rate of 66 per 100,000. In Los Angeles, VD is considered the city's most serious health menace; gonorrhea ranks first among communicable diseases in number of cases, and syphilis ranks fourth in number of cases.

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[2] Statement before House Appropriations subcommittee, Feb. 16, 1960.

[3] Only measles and scarlet fever-streptococcal throat account for larger numbers of patients.

[4] Georgia, 20.2 per 100,000; Arkansas, 12.2; South Carolina, 11.7; Delaware, 10.8; Arizona, 8.8; Maryland, 8.2; Louisiana, 8; Alabama, 7.9; New York, 7.4; New Mexico, 7.2; Tennessee, 6.8; California and Illinois, 6.5; Florida, 5.7; North Carolina, 5.3; Massachusetts, 5.1; New Jersey, 4.9; Texas, 4.8.—Association of State and Territorial Health Officers, American Venereal Disease Association, American Social Health Association, *Today's VD Control Problem* (1960), p. 36.

The fact that gives public health officials greatest concern is that what had been a highly successful drive against venereal disease, especially since penicillin became generally available after World War II, has now run up against obstacles that threaten to wipe out much of the progress already made. The number of cases of primary and secondary syphilis reported to civilian authorities fell from 106,500 in 1947 to a low of 6,251 in 1957. Since 1957, the number reported has risen each year; 8,178 cases of syphilis were reported in the twelvemonth ended June 30, 1959, and 5,476 cases in the last six months of 1959. The number of reported cases of gonorrhea dropped from 400,000 in 1947 to a low of 216,500 in 1957 and then climbed to 237,300 in 1959. Twenty-nine states and 49 large cities reported increases of infectious venereal disease cases in 1959; only six states and 14 cities reported decreases.[5]

Between 1955 and 1959 the number of reported civilian cases of primary and secondary syphilis rose 591 per cent in San Francisco; 378 per cent in Los Angeles; 280 per cent in Washington, D. C.; 211 per cent in Boston; 184 per cent in Chicago.[6] Dr. William J. Brown, chief of the Venereal Disease Branch of the U.S. Public Health Service's Communicable Disease Center in Atlanta, Ga., told a meeting of doctors and social workers in Chicago on April 6 that the average increase in the past year in cities of more than a million inhabitants had been around 100 per cent. Dr. Brown called the situation "terribly alarming." He noted in another speech that the number of reported VD cases among armed forces personnel had doubled between 1950 and 1958.[7]

VD Among Teenagers in America and Abroad

The increase in infections among teenagers is the most alarming aspect of the present VD picture. A recent public health department survey showed that in 29 states the number of boys and girls with infectious syphilis in the 15-19 age group increased in the year ended June 30, 1959; 25 states reported an increase in gonorrhea in that age group. An increase in syphilis was reported among teenagers in 21 cities, an increase in gonorrhea in 43 cities.[8]

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[5] *Ibid.*, p. 9.

[6] U.S. Department of Health, Education and Welfare, *Venereal Disease in Children and Youth* (1960), p. 5.

[7] Speech before Association of Military Surgeons, Washington, D. C., Nov. 9, 1959.

[8] Association of State and Territorial Health Officers, etc., *op. cit.*, p. 16.

One-fifth of all reported infectious venereal disease cases in the United States involve persons under age 20. The U.S. Public Health Service estimates that 200,000 teenagers acquire venereal disease every year. The trend for the younger group follows closely that for the population as a whole; incidence is highest in the southern states and in large cities. The rate for the country as a whole in the 15-19 age group is 416 per 100,000.[9]

The rate among teenage girls is second only to that for the 20-24 age group, while the rate among teenage boys is exceeded by the rate for men in both the 20-24 and 25-29 age groups. In the country as a whole, 1,326 men and 423 women of every 100,000 aged 20-24 have gonorrhea or early syphilis. New infections are not unknown even among children. A Public Health Service study of several years ago showed that the upward trend began at age 12 among girls and at age 14 among boys.[10] More recent figures disclose a rate among girls aged 10-14 of 30 per 100,000, compared with a rate of 7 among boys in this age group.

The recrudescence of venereal diseases is not confined to the United States. It was observed at a meeting of the World Health Organization's Expert Committee on Venereal Infections and Treponematoses in Geneva last September that infectious syphilis and gonorrhea were not "dying diseases" but continued to present problems both in highly developed and in developing countries. Seaport areas of Asia and South America, where VD prevalence remains high, were described as "so many reservoirs of world infection."

Data from 147 British clinics disclosed increases in the number of males with venereal disease in all age groups up to age 60, and of females in all age groups except 35-49 years. The number of British boys and girls in the teens reported to be infected rose from 1,846 to 2,233 between 1958 and 1959. Of 38 British cities with populations of over 100,000 which reported on VD, 22 showed increased incidence among teenagers.[11]

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[9] The highest rates for infectious disease in the 15-19 age group were found in the District of Columbia, 5,728 per 100,000; Georgia, 1,320; Florida, 1,089; Mississippi, 1,065; North Carolina, 860; South Carolina, 841.

[10] James F. Donohue and others, "Venereal Disease Among Teenagers," *Public Health Reports*, May 1955, p. 453.

[11] Association of State and Territorial Health Officers, etc., *op. cit.*, p. 17.

Reasons for New Rise of Social Diseases

COMPLACENCY, born of the belief that penicillin had reduced the problem of venereal disease to minor proportions, is blamed for the new spread of the scourge. Penicillin is in fact a remarkably effective weapon in such cases, but not all afflicted persons are brought under treatment. Gonorrhea in particular is difficult to control, because some of the persons who have the disease do not know it and many others rely on self-administered doses of patent medicines containing penicillin—doses not adequate to effect a cure.

There is no way to eliminate the danger of a VD epidemic except by proper treatment of all infected individuals. Unlike malaria, venereal diseases cannot be eradicated by destroying an insect vector. The spirochete and the gonococcus, causative organisms of the diseases, live only in the human host and are transferred only by human contact, usually through sexual relations.

Abandonment of Strong Follow-up Programs

Great strides toward eradication of venereal diseases were made in the first decade after World War II because most VD patients in that period were treated in public facilities. Trained venereal disease investigators interviewed the patients to find out who their contacts had been, so that the contacts could be brought in for examination and, if necessary, treatment. When the development of slow-absorption penicillin simplified medical treatment, individuals seeking treatment usually preferred to go to private doctors rather than to public clinics. In most such cases, no effort was made to track down and treat those from whom the patients might have acquired the disease.

Dr. Leroy E. Burney, Surgeon General of the U.S. Public Health Service, recently attributed the current rise in the VD rate to the fact that state public health authorities had been led by the earlier decline to divert funds and manpower to other health problems.

> Some years ago we were alerted to action by the occurrence of a large number of cases of venereal disease. . . . We instituted very good programs of case finding, case holding, treatment, improving the kind of treatment, getting contacts in for examination;

> and the result was a dramatic decline in the number of cases. After such a program, people are inclined to . . . slacken off in their efforts. As a result, we see here a recurrence in a number of localized areas of a high incidence of syphilis and gonorrhea.[12]

The hazard of epidemics when follow-up of infectious cases does not take place is indicated by results obtained in areas where the chain of contagion has been traced. In a county of a midwestern state where the largest town had a population of only 17,000, investigation of the initial case to be reported—a 20-year-old woman infected with syphilis by her husband—led to discovery of 187 contacts among whom 40 cases of syphilis were diagnosed. Follow-up of other cases in the county disclosed that a grand total of 625 persons had been exposed to VD; 148 of them had syphilis and 40 gonorrhea. The infected individuals included children as young as six; two-fifths of the whole number were teenagers.

In a large eastern industrial area, a doctor's report of one syphilis case led to examination of 200 persons and the discovery of 31 cases of syphilis. Medical detective work that followed the reporting of a single case of infectious syphilis in a southern community uncovered 79 more cases. Such follow-ups are not the rule in all places. A recent study showed that in 14,428 cases of infectious syphilis reported by private physicians between 1954 and 1958, only 2,400 of the victims were interviewed in a search for the source of the infection and for other persons infected. It was estimated that follow-ups of the 12,028 uninvestigated cases would have disclosed more than 40,000 contacts and probably around 5,000 cases of syphilis.[13]

VD and the Decline of Licensed Prostitution

Prostitution has long been recognized as a major source of venereal infection. It used to be felt that public regulation of prostitution, with a requirement of frequent medical check-ups, provided a major public health safeguard. In recent years, however, public health authorities have come to consider prostitution as of diminishing significance in the spread of venereal diseases.

A devastating epidemic of syphilis which swept over Europe in the 16th century led to efforts to suppress pros-

[12] Testimony before House Appropriations subcommittee, Feb. 15, 1960.

[13] Drs. William J. Brown, Thomas F. Sellers, and Evan W. Thomas, "Challenge to the Private Physician in the Epidemiology of Syphilis," *Journal of the American Medical Association*, Sept. 26, 1959, p. 590.

titution, but toward the end of the 17th century European governments began to require confinement of prostitutes to licensed houses where they were subject to sanitary controls. Although red-light districts have been tolerated and in effect regulated by the police in many American cities, the system of official licensing of brothels and compulsory medical inspection of prostitutes never has gained a foothold in this country.[14]

Regulation of prostitution has lost favor abroad in the present century, not only because of moral objections to giving prostitution the equivalent of official sanction, but also because of the shortcomings of regulation as a public health measure. The system fails to reach all prostitutes, fails to disclose all cases of infection among those examined, and ignores others in a community who carry the contagious organisms. A report recently prepared by the Secretariat of the United Nations at the request of the U.N. Social Commission advocated abolition of the regulation of prostitution and closing down of licensed brothels. This position was in keeping with a U.N. Convention for the Suppression of the Traffic in Persons and the Exploitation of the Prostitution of Others, approved by the General Assembly in 1949.

The report described laws requiring medical control of prostitutes by public authorities as discriminatory and ineffective because they reached only "a small section of the active prostitute and promiscuous population which constitutes the total reservoir of infection." The report said that medical control of prostitutes was of very little benefit to the population at large. "In fact, it is argued that it might actually increase the venereal disease rate in the population by the false sense of security engendered." [15] Abandonment of public regulation was recommended even though it was admitted that venereal disease was more prevalent among unregulated than among regulated prostitutes.

A year after Japan in April 1957 ordered abandonment of licensed, medically supervised brothels, official statistics showed that the venereal rate among unlicensed prostitutes arrested in Tokyo had risen from 14 per cent of

[14] Only St. Louis is on record as having experimented with the system, from 1870 to 1874.

[15] United Nations Department of Economic and Social Affairs, *Study on Traffic in Persons and Prostitution* (1959), p. 15.

those arrested to 24 per cent. France, which abolished licensed houses of prostitution in 1946, was one of the countries reported by the World Health Organization in 1959 to have suffered a recrudescence of venereal diseases. Other countries which have abolished regulation of prostitution recently are Chile, Greece, Italy, and Spain.

Growth of Sexual Freedom Among Young People

Specialists in VD control, when they look for ways to block the chain of contagion in a community today, show far more interest in health hazards presented by the sexual freedom that has developed in various segments of the population than in the health hazards presented by prostitutes. Professional prostitutes, aware of the hazards, are more likely to take precautions against disease than others. The least wary of all is the relatively inexperienced adolescent.

The U.N. report noted that because of the growing competition of the "promiscuous woman, . . . the trend is apparently towards a decreasing demand for prostitution," and that "in many places the venereal peril appears now to be threatening young people more through free sexual intercourse than through prostitution itself." Spreading of venereal infection through "non-commercial illicit sexual relations" was said to be increasing with "the progress of modern civilization."

According to the American Social Health Association, wartime conditions "contributed to an era of promiscuity which put the prostitute, to a considerable extent, out of demand"; the prostitute "became replaced as a VD carrier by the amateur, the pickup, the promiscuous working girl." As a result, "the prostitute became a smaller and smaller factor in the VD contact reports and she has not yet returned as a serious VD problem." [16] Call girls, whose numbers have multiplied in recent years, are not regarded as presenting a serious health problem because they are well paid and are apt to be sophisticated in matters of sex hygiene.[17]

A New York City public health doctor has attributed the rise in venereal diseases in that city largely to "a greater breakdown in morality among adults, sifting down

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[16] T. Lefoy Richman, *Venereal Disease, Old Plague-New Challenge* (1960), p. 16.

[17] Call girls employed by a New York City "madam" indicted on May 17 were said by the assistant U.S. attorney in the case to receive from $50 to $100 for each act of prostitution.

to their children, and [to] vanishing sex taboos . . . introducing greater promiscuity with attending hazards." [18] There is much to indicate that today's adolescents have considerably less fear of contracting syphilis or gonorrhea than had the youth of earlier generations. Dr. Robert B. Lawson, chairman of the Pediatrics Department at the University of Miami School of Medicine, told the White House Conference on Children and Youth last March that the increase in sex relations among teenagers was due largely to improved birth control measures and to a declining fear of contracting disease.

Others have attributed the growing looseness of sexual conduct to more pervasive influences. Dr. Robert E. Fitch, a former Navy chaplain now professor of ethics at the Pacific School of Religion in Berkeley, Calif., has observed a trend toward a "breakdown in sexual morals," dating from World War I, that has been generated largely by Freudian psychology and by writers who have helped to establish the view that "sex is purely biological" and to be treated "like an appetite." [19] The American Social Health Association blames the "sexual climate" and the "under-20 sex sell," which constantly confront the nation's 17 million teenagers with erotic themes. Young people always want to conform, and today's mores are far less demanding of sexual abstinence than in the past.

Persisting Factors of Poverty and Instability

Outbreaks of venereal disease tend to occur in the poorer and more congested sections of a community, and the incidence is highest among individuals with relatively unstable backgrounds. Like other contagious diseases, VD is closely associated with the total slum problem.

According to a Public Health Service report, "evidence indicates a definite correlation between venereal disease and other social problems of children and youth." It is associated with problems of maladjustment, lack of financial stability, and low educational status. In families where adult patterns of sexual behavior encourage promiscuity at an early age, there is greater likelihood of infection in the adolescent. Among school populations, the infected child often has many personal and social problems.

[18] Cited by T. Lefoy Richman, *op. cit.*, p. 5.
[19] "What's Wrong—What's Right With Today's America," *U.S. News & World Report*, Feb. 22, 1960, p. 63.

Dr. William J. Brown of the U.S. Public Health Service reported to the World Health Organization last autumn that an investigation of 1,000 VD cases in Los Angeles showed that sexual activity began at around age 13 for both sexes in cases where the family structure was "casual and loosely organized" and there was little privacy in the home. In half of the cases investigated the initial infection had been acquired before age 20.

Investigators have noted a recent increase in the number of infected teenagers from more favored homes. A follow-up program, initiated with the diagnosis of gonorrhea in a 16-year-old boy, disclosed that all members of his group of 19 boys were infected and none of them had any knowledge of venereal disease. The boys were all better-than-average students and were active in athletics. All had acquired the disease from a single prostitute and one of the boys had passed on the disease to a 15-year-old junior high school girl.

Measures to Control Venereal Diseases

THE FIRST national effort to bring venereal diseases under control in this country was instituted during World War I, when 6 per cent of Army draftees were found to be suffering from syphilis or gonorrhea. Congress created a division of venereal diseases in the Public Health Service and authorized appropriation of $1 million for grants to the states to combat VD. Several hundred clinics were opened, but official interest slumped after the war and many of the clinics were closed when federal funds were cut off.

Parran's Unprecedented Crusade in the 1930s

The federal grant-in-aid program was re-established on a permanent and more extensive basis under the Venereal Disease Control Act of 1938. Passage of that law was a triumph for Dr. Thomas Parran, a former chief of the venereal disease division of the Public Health Service who had been appointed Surgeon General in 1936. Parran led a crusade to strip away the taboos on public discussion of the dangers of syphilis and gonorrhea and gain acceptance

of an open public health program of prevention and treatment. "We might virtually stamp out this disease," wrote Parran shortly after he became Surgeon General, "were we not hampered by the widespread belief that nice people don't talk about syphilis." [20]

Medical knowledge of the nature of syphilis had been growing. The causative organism, the spirochete, had been discovered in 1905 and, a year or two after that, August von Wasserman, German bacteriologist and physician, had perfected a test for diagnosis of syphilis through examination of the blood. The first specific capable of killing the virus of syphilis without harming the patient became available in 1910, when Dr. Paul Ehrlich announced his discovery of salvarsan, an arsenic compound. Prior to that time, doctors had relied chiefly on mercury, which had dangerous side-effects. Bismuth was introduced as a supplement to salvarsan in 1922 to prevent relapses. Various drugs and procedures had been used to treat gonorrhea, and by the 1930s promising results were being obtained with one of the early sulfas.

It was thus felt that medical aspects of the venereal disease problem were well in hand. All that was needed in addition, it was believed, was to alert the public and the medical profession to the importance of protecting the public against venereal contagion, to mobilize public support for a program of rounding up infected persons, and to make provision for treatment, cost-free if necessary, of all infected persons.

Additional problems arose after the program authorized by the 1938 act was well established. The minimum course of treatment for syphilis required weekly injections over a period of 72 weeks. Many persons who came to clinics for treatment quit as soon as the early symptoms cleared up—the first sores of primary syphilis and the rash of secondary syphilis which shows up three to six weeks later. Even today, persons with syphilis do not always realize that when the overt symptoms disappear, the disease, unless further treated, becomes latent and may later attack the heart, brain or spinal cord.[21]

[20] Thomas Parran, "The Next Plague to Go," *Survey Graphic*, July 1936. Parran, a U.S.P.H.S. career man, headed the venereal disease division from 1926 to 1930 and was on loan to New York as commissioner of the State Department of Health from 1930 until his appointment as Surgeon General in April 1936.

[21] One of every five untreated persons with infectious syphilis can be expected to suffer the later degenerative consequences.

Wartime Programs and Advent of Penicillin

When the United States got into World War II, the VD rate shot up sharply. As a result, the control program received new impetus. Military and civilian authorities cooperated in efforts to locate infected persons and bring them under treatment. Federal appropriations to carry out the Venereal Disease Control Act increased from the $3 million voted for fiscal 1939 to $12.5 million for fiscal 1943.

Public squeamishness about venereal disease was now on the way out. At the urging of Dr. Parran, the Army, which had been rejecting syphilitic draftees, began in 1942 to induct them and order them to report for treatment. Although the armed services still relied largely on prophylaxis to hold down syphilis and gonorrhea, control was made more effective by a clinical follow-through in every case that developed.[22] Meanwhile, the Public Health Service established about 65 so-called rapid treatment centers, where hundreds of thousands of infected civilians were given massive or continuous doses of medicine to cut down the length of time required for treatment.

The VD picture changed radically after 1943 when Dr. John Mahoney, working in a U.S.P.H.S. hospital on Staten Island, N. Y., introduced penicillin in syphilis therapy. With a large number of patients under treatment at the centers, a means of swiftly evaluating the new therapy was provided; it proved phenomenally successful. Before long, patients were being cured within two weeks. Later, when slow-absorption penicillin had been developed, a single dose was found sufficient to maintain a spirochete-killing level in the blood for several weeks.

After simplification of the medical procedures, the rapid treatment centers, which were hospital-like facilities, were no longer necessary. In the 1950s they were replaced by outpatient clinics. A substantial part of the syphilis caseload thereupon began to move from public facilities to the offices of private physicians, who now could handle VD cases in a routine way.

Cutback in Federal Grants for Control of VD

By this time the syphilis rate had dropped significantly and the age-old fear of the disease had largely subsided.

[22] The armed services abandoned disciplining servicemen who contracted VD, unless they willfully failed to avail themselves of prophylaxis.

Federal appropriations for the control program, which had reached $17 million in fiscal 1948, dropped to $3 million in 1955. The appropriation was increased to $5.4 million for the fiscal year now drawing to a close.

Grants to the states to help them combat venereal diseases declined from a high of $16 million in 1947 to less than $1 million in 1955; since 1955 the grand total has averaged around $1.8 million annually. State and local expenditures for VD programs have remained in the neighborhood of $14 million a year since the mid-1950s (compared with nearly $17 million in 1949). Of the $17.1 million expended in the current fiscal year on operational programs around the country, $15.3 million has come from state and local treasuries.

The three non-governmental organizations most closely associated with the anti-VD campaign have objected to the reduction in federal spending and have urged increased appropriations at all governmental levels. These organizations—the Association of State and Territorial Health Officers, the American Venereal Disease Association and the American Social Health Organization—for the past seven years have joined annually in recommending action to make control programs more effective. They said in their most recent statement, issued last February, that surveys they had conducted showed that 36 states needed more money in the coming fiscal year to do an adequate job but in only eight states were increased funds expected from state sources; only nine of 34 cities in need of more money expected to get it. It was estimated that it would take $1.5 million to pay the salaries of needed additional personnel in areas whose health officers felt control was inadequate.

When the U.S. Public Health Service went before Congress to justify its budget for the fiscal year 1961, Chairman John E. Fogarty (D R.I.) of the House Appropriations subcommittee asked why the request for funds for grants to the states for venereal disease control was $700,000 less than had been asked the previous year. "Here we have something that is getting out of hand and [you are] recommending cutting back the appropriation," said Fogarty. "That does not make sense to me."

Surgeon General Burney replied that the federal government had taken the lead in initiating the control program,

that the methodology of control had been established, and that now it was up to the states to continue the work. Dr. Burney said: "We have a philosophical question, in a way. Once the federal government has made a great impact in this area and has stimulated the states to do a great deal, which has resulted in a tremendous lowering of the incidence, then how much longer does the federal government keep in this particular program?"

Emphasis on Case-Finding and Cluster Testing

The major emphasis in combating syphilis and gonorrhea today is on case-finding. Case-finding involves a kind of quasi-medical detective work for which the average doctor lacks the skill, time or inclination. Interviewers who specialize in eliciting the required information from VD patients are needed for that task. Prevalence of venereal disease among drifters, social misfits, delinquents and others from unstable backgrounds gives many interviewers the problem of overcoming suspicion and reluctance to cooperate with persons in authority.

Two-week training courses for VD interviewers have been set up by the U.S. Public Health Service in special schools in Atlanta, Detroit and Los Angeles, and since 1957 a mobile school, equipped with closed-circuit television, has been dispatched to public health offices around the country. Many of the techniques used in this kind of interviewing were adapted from those developed by the late Dr. Alfred C. Kinsey.

Questioning of the patient used to stop when he gave the name of his most recent sexual contact. The favored technique today is "cluster testing." An interviewer seeks the names not only of former sexual partners but also of associates of infected persons who may have been exposed to the disease. A major key to successful case-finding is winning the cooperation of private physicians.

> Public health officers understand well the responsibility of the general practitioner to protect the confidence of the physician-patient relationship, as well as his reluctance to report the names of his patients with syphilis or to suggest that his private patient should be interviewed for contacts by a third person from the health department. Health department personnel . . . have been trained to keep information concerning the identity of patients and contacts in strict confidence and to bring to the epidemiological investigation the same high professional standards that are applied to diagnosis and treatment. Their approach to any person

in a chain of infection considers marital problems and other social implications which might develop.[23]

Efforts are being made also to win cooperation in another quarter. In an address to the Association of Military Surgeons last November, Dr. William J. Brown, VD chief in the U.S. Public Health Service, pleaded for improvement of military case-finding activities: "You military surgeons have a genuine responsibility to your own people and to the general public to [help] . . . in the practical eradication of venereal disease. . . . Many thousands of your young men come to this continent directly from areas where venereal disease is almost completely out of control."

Diagnostic Problems; Resistance to Penicillin

Despite the phenomenal effectiveness of penicillin in treatment of venereal diseases, certain medical problems in this field remain to be solved. One of the chief problems is diagnosis of gonorrhea, particularly in women. It has been estimated that gonorrhea defies detection, even with use of the best laboratory techniques, in perhaps one-half of the women who have the disease. A paper presented at a recent public health meeting stated: "The limitations and special usefulness of clinical and laboratory techniques in the diagnosis of gonorrhea are not well understood by the average practitioner today. Many physicians and clinics, because of complacency or lack of ancillary aid in diagnosis, employ measures for the treatment, management and control of this disease which appear poorly justified in the light of newer research findings." [24]

The attack on gonorrhea was never as successful as the attack on syphilis. After 1947, reported cases of infectious syphilis dropped 94 per cent, of gonorrhea only 45 per cent. Until the early 1950s, gonorrhea was dealt with almost solely by treating infected males, many of whom became reinfected in short order, and this is still the procedure in many communities. Unwarranted confidence in self-treatment with patent medicines reduced popular fear of the disease.[25] Even in areas where vigorous public health measures have been taken to control venereal dis-

[23] Drs. William J. Brown, Thomas F. Sellers and Evan W. Thomas, "Challenge to the Private Physician in Epidemiology of Syphilis," *Journal of the American Medical Association*, Sept. 26, 1959, p. 392.

[24] Warfield Garson and Gerald D. Barton, "Problems in the Diagnosis and Treatment of Gonorrhea," *Public Health Reports*, February 1960, p. 119.

[25] Dr. Brown has pointed out that, although penicillin has not brought about the hoped-for reduction in gonorrhea, it has "reduced to a minimum the complications and sequelae" of the disease.

ease, the cluster testing technique has been used less intensively on gonorrhea than on syphilis, in part because the latter is a more serious disease and in part because diagnosing gonorrhea in the female contact presents technical difficulties.

A new so-called "fluorescent antibody technique," developed by the U.S. Public Health Service, has given promise of a major breakthrough in diagnosis of gonorrhea in females. The laboratories are working also on methods of achieving artificial immunity against syphilis. "The practical eradication of syphilis as a public health problem may depend on success in these efforts," according to the U.S. Public Health Service.

Meanwhile, there is fear that penicillin will become decreasingly effective in VD therapy as new resistant strains of the infective organisms develop. According to Dr. Brown, there is no evidence yet of a penicillin-resistant syphilis organism, but certain strains of the gonococcus are beginning to show resistance. The Expert Committee on Venereal Infections of the World Health Organization reported last September that increased resistance to penicillin by gonococci had been observed in the laboratories of several countries and that the existence of penicillin-resistant strains may become a public health problem.

Larger doses of pencillin are now being prescribed in gonorrhea cases. In some cases of female infection, 10 times as much penicillin is being administered today as was prescribed a few years ago. The W.H.O. committee recommended a minimum dose of 1.8 million units instead of the former customary dose of 600,000 units.

If penicillin loses its potency against venereal diseases, other antibiotics may be used effectively in its place. Streptomycin is sometimes prescribed in cases which fail to respond to penicillin or in cases involving patients who are allergic to penicillin. Nine of the 17 antibiotics commercially available have been shown to be effective in treating gonorrhea.

Pleas for More Sex Education in the Schools

Programs for combating venereal disease put strong stress on public education. It has been found that young people today are surprisingly ignorant of the hazards of syphilis and gonorrhea. Many of them do not know it

when they are infected or, if they do know, they attempt futile self-medication. The assumption that the discomfort of gonorrhea in the male drives all patients to seek medical attention has been disproved by cases of schoolboys who have failed to disclose the condition to their elders.

Because of the early age at which infections are appearing, Dr. Brown has advocated intensive health education programs in the schools.[26] He has proposed introduction of such programs in the seventh or eighth grade in order to reach children before exposure and to make sure that those who are apt to drop out of school in their mid-teens will be informed.

> Since this kind of education is not yet generally acceptable, public health people for years have depended on word-of-mouth communications, admittedly less than an ideal situation. Insofar as possible, the mass communications media have been utilized, as well as person-to-person instruction in clinics—a process known as "feeding the grapevine." In lieu of any kind of formal education on the subject, this has resulted in the importation of a surprising amount of correct venereal disease information to the people who need it most.[27]

Public health clinics try to do an intensive job of education with patients who come in for treatment—through talks, printed material, and referral to cooperating agencies.

The American Social Health Association has taken the lead in pressing for more sex education in the schools. Stressing the connection between promiscuity and the hazard of infection, it asserts that the best safeguard against venereal infection of young people is a strengthening of family life that will hold boys and girls to the conventional code of sexual morals. Promiscuity, the association says, is least prevalent among adolescents who feel secure in their family relations and who have developed wholesome attitudes toward sex.

[26] See "Sex Education in Schools," *E.R.R.*, 1957 Vol. II, pp. 805-820.

[27] Working paper for meeting of W.H.O. Expert Committee on Venereal Infections and Treponematoses, Nov. 4, 1958, pp. 12-13.